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ANGUILLAVUS HACKBERRYENSIS.
H. T. Martin.

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THE KANSAS UNIVERSITY SCIENCE BULLETIN.

VOL. XIII.] MAY, 1920. [No. 7.

Anguillavus hackberryensis.*

A new species and a new genus of fish from the Niobrara Cretaceous of Kansas.

BY H. T. MARTIN.

(Plate VI.)

ALTHOUGH not a new genus of fish in the proper sense of the word (the generic name having been given by Hay† to similar forms from the Upper Cretaceous of Mount Lebanon, Syria), this is the first time so far as the writer is aware that this genus has been reported from the Niobrara Cretaceous of Kansas, hence the term.

The species I have named for the locality in which the specimen was found, a locality made famous by the early discoveries of Williston and Mudge.

It is rather strange that, after fifty years of collecting by as many parties, not a single fragment has been found referable to this genus. Yet one would naturally expect that among the thousands of fossil fishes that have been collected from the deposits of this once great inland sea some member of this group would have been recognized.

The specimen here figured and described was found by the writer during the University Expedition of 1919, on Hackberry creek, Gove county, Kansas, six miles east of Gove City.

When found the specimen was weathered out and fully exposed as shown in the plate. The process of weathering had unfortunately carried away the greater part of the front portion of the skeleton, leaving only one or two bones of the skull,

* Received for publication on May 18, 1921.

† On a collection of Upper Cretaceous fishes from Mount Lebanon, Syria, with descriptions of four new genera and nineteen new species, p. 439, by O. P. Hay.

with impressions where other parts had been washed away. The only part of the head remaining was a fragment of one dentary and one quadrate.

From all indications the skull was disarticulated and scattered over quite an area, while the hinder part of the skeleton was missing from the level of the sixty-fifth vertebra backward. The vertebræ remaining are connected in series which has made possible the retaining of the dorsal and anal fin in position. In size the Kansas specimen greatly exceeds those described by Hay from Mount Lebanon.

DESCRIPTION.

Ventral Fin.

The ventral fin is represented by two separate and distinct groups of four or five small irregular oblong plates, which are evidently the baseost bones of the fins. These plates and portions of the girdle appear at the level of the thirtieth vertebra in line with the well-defined outline of the body. The plates are 3 mm. wide and 4 mm. long. As the basal plates may have moved from their original position it is not certain that the ventral fins commenced at the thirtieth vertebra, although they appear to have done so.

Anal Fin.

The anal fin commences at the thirty-fifth vertebra or just behind the baseost bones of the ventral fin and continues without break to the last vertebra remaining in the preserved series.

Dorsal Fin.

Owing to the weathering away of the matrix towards the front part of the specimen, the dorsal fin does not show distinctly its whole length, the rays being disassociated and scattered, but in such a way that the fin appears to have commenced at or very near the occipital. From the thirty-fifth vertebra backward they are in position to the last vertebra remaining.

Vertebræ.

From the position made clear by impressions in the matrix, where the first vertebra occurred, to the eighteenth, the vertebræ are missing. The nineteenth, twentieth, twenty-first and twenty-second are represented by a half of each vertebra,

the twenty-second to the thirty-seventh are missing entirely, but from here on to the sixty-fifth the vertebræ connected with the dorsal and anal fins are perfect. Twenty-five vertebræ here measure 100 mm. All vertebræ are very constricted in their center and are a little wider than long.

The entire specimen is crushed laterally, leaving the dorsal and anal fins in their natural position. The average distance across from the upper edge of the dorsal fin to the lower edge of the anal fin is 22 mm. At one point where the matrix has flaked away there appear six or seven delicate ribs attached to the underside of the vertebræ.

The following measurements have been made: Length of specimen from impression of first vertebra to the sixty-fifth and last remaining vertebra, 255 mm.; length of quadrate, 6 mm.

DESCRIPTION OF PLATE VI.

FIG. 1. Photograph of entire specimen as preserved in the matrix.

df. = Dorsal fin.
af. = Anal fin.
Bp. of Vf. = Basal plates of ventral fins.
X. = Impressions of first vertebræ.
Qd. = One quadrate 6 mm. long.
Dent. = Portion of dentary.

FIG. 2. Section of the hinder portion of the specimen, about natural size.

df. = Dorsal fin.
af. = Anal fin.
Br. of Vf. = Basal plates of ventral fins.

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PLATE

FIG. 1.

FIG. 2.